Comparisons of Job Characteristics

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 72

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	21.7	17.8	<<	Extensive education and/or training may be required
Design	5.2	17.2	8.7	<<	Extensive education and/or training may be required
Mathematics	9.2	16.3	16.0	0	Current knowledge level may be sufficient
Chemistry	4.8	15.8	10.3	<<	Extensive education and/or training may be required
Physics	4.3	15.7	14.4	0	Current knowledge level may be sufficient
Law and Government	5.9	13.6	9.3	<<	Extensive education and/or training may be required
Building and Construction	4.0	13.0	3.4	<<	Extensive education and/or training may be required
Public Safety and Security	6.9	12.0	5.8	<<	Extensive education and/or training may be required
Biology	3.7	10.0	4.7	<<	Extensive education and/or training may be required
Transportation	4.6	9.0	3.0	<<	Extensive education and/or training may be required
Geography	3.9	8.3	17.4	>>	Current knowledge level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Reading Comprehension	10.7	16.4	16.0	0	Current skill level may be sufficient
Critical Thinking	10.8	14.5	11.5	<	A higher skill level may be required
Complex Problem Solving	9.1	13.9	11.9	<	A higher skill level may be required
Judgment and Decision Making	9.4	13.9	11.4	<	A higher skill level may be required
Systems Analysis	6.5	13.1	8.6	<<	Extensive development of skills in this area may be required
Mathematics	6.2	12.3	9.4	<<	Extensive development of skills in this area may be required
Systems Evaluation	6.4	11.7	8.3	<<	Extensive development of skills in this area may be required
Science	4.5	11.4	15.1	>>	Skill level is likely more than sufficient
Operations Analysis	5.0	11.0	7.9	<<	Extensive development of skills in this area may be required
Quality Control Analysis	5.9	10.4	4.4	<<	Extensive development of skills in this area may be required
Management of Financial Resources	3.3	7.2	3.1	<<	Extensive development of skills in this area may be required
Programming	2.2	5.6	2.2	<<	Extensive development of skills in this area may be required
Technology Design	2.6	5.5	2.8	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 96

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Problem Sensitivity	11.1	17.0	12.8	<<	Extensive improvement in abilities may be required
Deductive Reasoning	10.6	16.2	13.0	<<	Extensive improvement in abilities may be required
Oral Comprehension	12.5	16.1	14.8	0	Current ability level may be sufficient
Written Comprehension	11.0	16.0	16.0	0	Current ability level may be sufficient
Inductive Reasoning	10.2	15.4	13.2	<	Some improvement in abilities may be required
Information Ordering	9.9	14.2	11.4	<	Some improvement in abilities may be required
Category Flexibility	9.0	13.6	12.3	<	Some improvement in abilities may be required
Flexibility of Closure	7.8	13.5	10.1	<<	Extensive improvement in abilities may be required
Mathematical Reasoning	6.3	13.4	10.3	<<	Extensive improvement in abilities may be required
Perceptual Speed	7.4	11.9	8.5	<<	Extensive improvement in abilities may be required

Speed of Closure	5.9	11.2	6.2	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Advise clients or customers	19
Advise governmental or industrial personnel	28
Analyze ecosystem data	69
Analyze scientific research data or investigative findings	27
Analyze technical data, designs, or preliminary specifications	47
Collect scientific or technical data	30
Communicate technical information	4
Confer with engineering, technical or manufacturing personnel	25
Confer with scientists	54
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop tables depicting data	33
Direct and coordinate activities of workers or staff	3
Direct and coordinate scientific research or investigative studies	27
Draw prototypes, plans, or maps to scale	57
Evaluate engineering data	60
Explain complex mathematical information	30
Interpret aerial photographs	69
Plan scientific research or investigative studies	48
Prepare environmental impact or related environmental reports	81
Prepare reports	8
Prepare technical reports or related documentation	22
Read maps	42
Read technical drawings	7
Resolve engineering or science problems	46
Understand engineering data or reports	48
Use building or land use regulations	65
Use computer aided drafting or design software for design, drafting, modeling, or other engineering tasks	58
Use computers to enter, access or retrieve data	3
Use drafting or mechanical drawing techniques	50
Use field notes in technical drawings	78
Use knowledge of investigation techniques	16

Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use project management techniques	47
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17
Write business project or bid proposals	48

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 76

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Environmental Engineers (17-2081)

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Business function specific software	1
Chromatographic measuring instruments and accessories	16
Computer data input devices	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Gas analyzers and monitors	10
Hydrological instruments	31
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory centrifuges and accessories	13
Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory enclosures and accessories	17
Laboratory furnaces and accessories	26
Laboratory mixing and stirring and shaking equipment and supplies	19
Laboratory ovens and accessories	15
Laboratory water purification equipment and supplies	29
Light and wave generating and measuring equipment	4
Liquid and solid and elemental analyzers	19
Network applications software	1
Sampling equipment	12
Seismological instruments	56
Soil measuring equipment	20

Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.